

Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Virginia Polytechnic Institute and State University	Registration Number:	20124
Facility Name:	Virginia Polytechnic Institute and State University	AIRS Number:	51-121-0002
Facility Location:	Physical Plant VPI & SU campus Blacksburg, Virginia	Permit Number:	VA-20124

January 1, 2004
Effective Date

December 31, 2008
Expiration Date

December 1, 2003
Robert G. Burnley Signature Date
Director, Department of Environmental Quality

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I. Facility Information

Permittee

Virginia Polytechnic Institute and
State University
112 Sterrett Facilities
Complex (0127)
Blacksburg, VA 24061

Responsible Official

William M. Elvey
Assistant Vice President for Facilities

Facility

Virginia Polytechnic Institute and
State University
Physical Plant, VPI & SU campus
Blacksburg, Virginia

Contact Person

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Assistant Vice President for Facilities
(540) 231-6291

Registration Number: 20124

AIRS Identification Number: 51-121-0002

Facility Description: SIC Code 8221 – VPI & SU is a publicly funded institute for higher education located in Blacksburg. Emission sources include boilers, other fuel burning equipment, fuel storage tanks, an incinerator, an ethylene oxide sterilizer, laboratories, research facilities, and maintenance and painting operations.

The facility is by definition a Title V major source due to potential emissions of criteria pollutants PM-10, sulfur dioxide, nitrogen oxides and carbon monoxide in excess of 100 tpy, potential emissions of hydrogen chloride in excess of 10 tpy, and potential emissions of total HAPs in excess of 25 tpy. It is located in an attainment area for criteria pollutants, and is a PSD major source. A PSD permit was issued to the facility in August 2001, to modify and operate Boiler 11. The facility has also entered into an Executive Compliance Agreement with DEQ regarding emissions from the boilers. The boilers predate NSPS applicability, with the exception of Boiler 11, which is subject to NSPS Subpart Db as it existed prior to the November 16, 1998 rule revisions incorporating more stringent NOx emissions limits. A MACT standard for industrial/commercial/institutional boilers has been proposed and is expected to be finalized in 2004. In addition, a federal emission guideline for other solid waste incinerators (OSWI) is expected to be finalized in 2005. No alternative operating scenarios have been requested.

II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
BO-E07	BO-S01	Union Iron Works coal-fired boiler	156 x 10 ⁶ BTU/hr	Multicyclone dust collector	BO-C03	Particulate	6/10/77
BO-E08	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E09	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E10	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E11	BO-S01	Riley Stoker coal-fired boiler	146.7 x 10 ⁶ BTU/hr	Procedair pulse jet baghouse filter	BO-C01	Particulate	8/30/01 (superceded 12/12/94 permit, 12/13/95 permit amendment)
				92% efficient Procedair dry scrubber	BO-C02	SO ₂	
GEN-E01	GEN-S01	Caterpillar 3512 diesel generator rated at 1250 kW	12.35 x 10 ⁶ BTU/hr	-	-	-	12/20/95

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Process A							
IN-E01	IN-S01	Dual-chamber incinerator	1200 lbs/hr animal waste	-	-	-	-
Process B							
ETO-E01	ETO-S01	3M Model 5XL ethylene oxide sterilizer and auxiliary aerator	-	Donaldson 50 SCFM catalytic abator	ETO-C01	Ethylene oxide	11/18/99, as amended 5/25/01 (superseded 2/12/99 permit)
Process C							
WW-E01	-	Woodworking operations	-	Fabric filters	WW-C01	Particulate	-
TK-E01	-	Fuel oil storage tank	137,000 gallons storage capacity	-	-	-	-
TK-E02	-	Fuel oil storage tank	137,000 gallons storage capacity	-	-	-	-

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

III. Fuel Burning Equipment Requirements – Boilers BO-E7, -E8, -E9, -E10 and -E11; Diesel Generator GEN-E01

A. Limitations

1. Except as specified in this permit, the No. 11 Boiler is to be operated in compliance with Federal emissions requirements under 40 CFR 60, Subpart Db as it existed prior to the November 16, 1998 rule revisions.
(9 VAC 5-80-110, 9 VAC 5-50-400, 9 VAC 5-50-410 and Condition 14 of 8/30/01 Permit)
2. Particulate emissions from the No. 7 Boiler shall be controlled by a multicyclone dust collector. The multicyclone shall be provided with adequate access for inspection.
(9 VAC 5-80-110, 9 VAC 5-50-260 and unnumbered condition of 6/10/77 Permit)
3. Particulate emissions from the No. 11 Boiler shall be controlled by a baghouse. The baghouse shall be provided with adequate access for inspection.
(9 VAC 5-80-110, 9 VAC 5-50-260 and Condition 3 of 8/30/01 Permit)
4. Sulfur dioxide emissions from the No. 11 Boiler shall be controlled by a dry scrubber flue gas desulfurization (FGD) system or DEQ-approved equivalent having a minimum control efficiency of 92.0 percent on a 30-day rolling average. The FGD system (or DEQ-approved equivalent) shall be provided with adequate access for inspection.
(9 VAC 5-80-110, 9 VAC 5-50-260 and Condition 4 of 8/30/01 Permit)
5. Nitrogen oxides emissions from the No. 11 Boiler shall be controlled by a mass-feed stoker configuration with low excess air/staged combustion (LEA/SC) to achieve an emissions rate not exceeding 0.246 lbs/10⁶ Btu.
(9 VAC 5-80-110, 9 VAC 5-50-280 and Condition 5 of 8/30/01 Permit)
6. The approved fuel for the No. 7 Boiler is coal. A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-110 and unnumbered condition of 6/10/77 Permit)
7. The approved fuels for the No. 8, 9 and 10 Boilers are natural gas and distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396-78 “Standard Specification for Fuel Oils.” A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-110)

8. The approved fuel for the No. 11 Boiler is coal. A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 11 of 8/30/01 Permit)
9. The approved fuel for the generator is distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396-78 "Standard Specification for Fuel Oils." A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 7 of 12/20/95 Permit)
10. The maximum sulfur and ash content of the coal to be burned in the No. 11 Boiler shall not exceed 1.4 percent and 8 percent by weight, respectively, per shipment.
(9 VAC 5-80-110 and Condition 11 of 8/30/01 Permit)
11. The maximum sulfur content of the oil to be burned in the generator shall not exceed 0.5 percent by weight per shipment.
(9 VAC 5-80-110 and Condition 7 of 12/20/95 Permit)
12. The generator shall not operate more than 175 hours per year, calculated as the sum of each consecutive 12 month period.
(9 VAC 5-80-110 and Condition 3 of 12/20/95 Permit)
13. The No. 11 Boiler shall consume no more than 42,000 tons of coal per year, calculated monthly as the sum of the previous consecutive twelve (12) month's usage.
(9 VAC 5-80-110 and Condition 11 of 8/30/01 Permit)
14. Emissions from the operation of the No. 7 Boiler shall not exceed the limits specified below:

Total Suspended Particulate	0.294 lbs/million BTU input
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PM-10	0.294 lbs/million BTU input
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Sulfur Dioxide	2.64 lbs/million BTU input hourly emission limit
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(9 VAC 5-80-110, 9 VAC 5-40-900 A 1, 9 VAC 5-40-930 A 1, and Condition 3 of 6/10/77 Permit)

15. Emissions from the operation of the No. 8, 9 and 10 Boilers (each) shall not exceed the limits specified below:

Total Suspended Particulate	0.185 lbs/million BTU input
PM-10	0.185 lbs/million BTU input
Sulfur Dioxide	2.64 lbs/million BTU input hourly emission limit

(9 VAC 5-80-110, 9 VAC 5-40-900 A 1 and 9 VAC 5-40-930 A 1)

16. Emissions from the operation of the No. 11 Boiler shall not exceed the limits specified below:

Total Suspended Particulate	2.9 lbs/hr 0.020 lbs/million BTU input	11.1 tons/yr
PM-10	2.6 lbs/hr 0.018 lbs/million BTU input	10.0 tons/yr
Sulfur Dioxide	23.6 lbs/hr (30-day rolling average) 0.161 lbs/million BTU input (30-day rolling average)	89.4 tons/yr
Nitrogen Oxides (as NO ₂)	36.1 lbs/hr (30-day rolling average) 0.246 lbs/million BTU input (30-day rolling average)	136.9 tons/yr
Carbon Monoxide	33.2 lbs/hr 0.226 lbs/million BTU input	126.0 tons/yr
Volatile Organic Compounds	0.3 lbs/hr 0.002 lbs/million BTU input	1.1 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-280 and Condition 12 of 8/30/01 Permit)

17. Emissions from the operation of the generator shall not exceed the limits specified below:

Sulfur Dioxide	7.35 lbs/hr	0.6 tons/yr
Nitrogen Oxides (as NO ₂)	43.63 lbs/hr	3.8 tons/yr
Carbon Monoxide	9.62 lbs/hr	0.8 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260 and Condition 4 of 12/20/95 Permit)

18. Visible emissions from the No. 11 Boiler stack and from the generator shall not exceed ten (10) percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity, as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during start-up, shutdown, and malfunction.
(9 VAC 5-80-110, 9 VAC 5-50-20, 9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-290, Condition 13 of 8/30/01 Permit and Condition 5 of 12/20/95 Permit)

B. Monitoring and Recordkeeping

1. The baghouse shall be equipped with a device to continuously measure the differential pressure drop across the baghouse. The monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the baghouse is operating. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.
(9 VAC 5-80-110, 9 VAC 5-50-20 C, 9 VAC 5-50-260, 9 VAC 5-80-10 H, and Condition 7 of 8/30/01 Permit)
2. An annual internal inspection shall be conducted on the multicyclone by the permittee to insure structural integrity.
(9 VAC 5-80-110)
3. Continuous emission monitors shall be installed to measure and record opacity and the concentration of SO₂ and NO_x. The opacity monitor shall be located in the breeching following the No. 11 Boiler baghouse. The SO₂ monitors shall be located at the inlet of the dry scrubber and at the outlet of the baghouse serving the No. 11 Boiler. The NO_x monitor shall be located between the No. 11 Boiler outlet and the stack common to the Nos. 7-11 Boilers. Each SO₂ and NO_x monitor shall be co-located with a CO₂ or O₂ monitor. The monitors shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Director, West Central Region.
(9 VAC 5-80-110, 9 VAC 5-50-40 F and Condition 8 of 8/30/01 Permit)
4. The continuous monitoring data generated by the SO₂ and NO_x monitors on the No. 11 Boiler shall be used to determine compliance with the emissions standards in Condition III.A.16 and the removal efficiency standard in Condition III.A.4. Compliance with SO₂ and NO_x emissions standards shall be determined on both a 30-day and an annual rolling average basis. Compliance with the SO₂ removal efficiency requirements shall be determined on a 30-day rolling average basis. The permittee

shall install and maintain instrumentation necessary to determine compliance during on-site inspection by agency personnel. This instrumentation shall indicate and record the following, at minimum:

- a. steam production of the No. 11 Boiler, on a continuous basis,
- b. the 30-day rolling average SO₂ emissions rate, in lbs/10⁶ Btu and lbs/hr, on a daily basis,
- c. the 30-day rolling average NO_x emissions rate, in lbs/10⁶ Btu and lbs/hr, on a daily basis, and
- d. the 30-day rolling average SO₂ removal rate, expressed as a percent, on a daily basis.

These data shall be kept on file for the most current five-year period and made available to the Department upon request.

(9 VAC 5-80-110, 9 VAC 5-50-40 and Condition 20 of 8/30/01 Permit)

5. A CEMS/COMS quality control program which meets the requirements of 40 CFR Part 60 (Section 60.13, Appendix B and Appendix F) shall be implemented for all continuous monitoring systems.
(9 VAC 5-50-40 and Condition 21 of 8/30/01 Permit)
6. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:
 - a. The consumption of coal, calculated monthly as the sum of the previous consecutive 12 months' fuel consumption.
 - b. Coal shipments purchased (supplier fuel analyses), indicating sulfur, ash and heat content per shipment.
 - c. Continuous monitoring system calibrations and calibration checks, percent operating time, and excess emissions.
 - d. The daily and annual throughput of natural gas (in million cubic feet) and distillate oil (in 1000 gallons). The annual throughput shall be calculated monthly as the sum of each consecutive twelve (12) month period.
 - e. The sulfur content of the oil burned in the boilers and generator.
 - f. The total operating hours of the generator per month.

- g. Maintenance and operator training as set forth in Section III.B, Conditions 7a and 7d.
- h. All stack tests, visible emission evaluations and performance evaluations.
- i. Differential pressure drop, as measured by the control monitoring device.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-80-110, 9 VAC 5-40-50, 9 VAC 5-50-50, Condition 25 of 8/30/01 Permit and Condition 10 of 12/20/95 Permit)

7. Operation & Maintenance Procedures: The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the boilers, generator and related air pollution control equipment which affect such emissions:
- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the boilers, generator and air pollution control equipment.
 - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the boilers, generator and air pollution control equipment and maintain records of inspection results.
 - c. Have available written operating procedures for the boilers, generator and air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
 - d. Train operators in the proper operation of the boilers, generator and air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
 - e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.
(9 VAC 5-80-110, 9 VAC 5-40-20E, 9 VAC 5-50-20E, Condition 8 of 12/20/95 Permit and Condition 29 of 8/30/01 Permit)

C. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
(9 VAC 5-80-110 and 9 VAC 5-50-30)
2. The permittee shall maintain records (supplier fuel analysis) of all coal shipments purchased. The sulfur content shall be determined according to ASTM D4239-93 "Standard Test Method for Sulfur in the Analytical Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion Methods" or a Department of Environmental Quality approved equivalent method. The ash content shall be determined according to ASTM D3174-89 "Standard Test Method for Ash in the Analytical Sample of Coal and Coke from Coal" or a Department of Environmental Quality approved equivalent method.
(9 VAC 5-80-110, 9 VAC 5-50-30 and Condition 16 of 8/30/01 Permit)
3. If compliance testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC Content	EPA Methods 24, 24a
NO _x	EPA Method 7
SO ₂	EPA Method 6
CO	EPA Method 10
PM/PM-10	EPA Method 5, 201, 201a
Visible Emission	EPA Methods 9, 22

(9 VAC 5-80-110)

D. Reporting

1. The permittee shall furnish written notification of the following to the Director, West Central Region:

Quarterly reports for the No. 11 Boiler, within 30 days after the end of each calendar quarter. Each report shall contain, at a minimum, the dates included in the calendar quarter and the following (additional details of the reports are to be arranged with the Director, West Central Region):

- a. With regard to the SO₂ and NO_x monitoring systems, the quarterly report shall include the information required under 40 CFR ' 60.49b, to include each 30-day rolling average SO₂ emissions rate, each 30-day rolling average SO₂ removal rate and each 30-day rolling average NO_x emissions rate.
- b. With regard to the opacity monitoring system, the quarterly report shall include excess emission and monitoring system downtime reports and/or summaries in accordance with 40 CFR ' ' 60.7 (c) and (d). Excess opacity emissions are defined as all 6-minute periods for which the average opacity exceeds the limit given in Condition III.A.18 of this permit, including periods of startup, shutdown, and malfunction.

(9 VAC 5-50-50, 9 VAC 5-170-160 and Condition 22 of 8/30/01 Permit)

2. The permittee shall furnish notification to the Director, West Central Region of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:
 - a. Identification of the specific process to be taken out of service, as well as its location, and registration number;
 - b. The expected length of time that the air pollution control equipment will be out of service;
 - c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;
 - d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-20-180 and Condition 23 of 8/30/01 Permit)

3. The permittee shall furnish notification to the Director, West Central Region of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph, as soon as practicable but not later than four daytime business hours after the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the board.

(9 VAC 5-20-180 and Condition 24 of 8/30/01 Permit)

IV. Process Equipment Requirements – IN-E01

A. Limitations

1. Visible emissions from the incinerator shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity.

(9 VAC 5-80-110, 9 VAC 5-40-80 and 9 VAC 5-40-760)

2. Emissions from the incinerator shall not exceed the limits specified below:

Total Suspended Particulate	0.14 grains per standard cubic feet of dry flue gas corrected to 12% carbon dioxide (without the contribution of auxiliary fuel)
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PM-10	0.14 grains per standard cubic feet of dry flue gas corrected to 12% carbon dioxide (without the contribution of auxiliary fuel)
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(9 VAC 5-80-110 and 9 VAC 5-40-750)

B. Monitoring and Recordkeeping

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110)
2. Operation & Maintenance Procedures: The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions:
 - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the incinerator.
 - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the incinerator and maintain records of inspection results.
 - c. Have available written operating procedures for the incinerator. These procedures shall be based on the manufacturer's recommendations, at a minimum.

- d. Train operators in the proper operation of the incinerator and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110 and 9 VAC 5-40-20E)

C. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
(9 VAC 5-80-110 and 9 VAC 5-40-30)
2. If compliance testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC Content	EPA Methods 24, 24a
NO _x	EPA Method 7
SO ₂	EPA Method 6
CO	EPA Method 10
PM/PM-10	EPA Method 5, 201, 201a
Visible Emission	EPA Methods 9, 22

(9 VAC 5-80-110)

V. Process Equipment Requirements – ETO-E01

NOTE: Requirements in Conditions A.2 through A.5 and B.2 of this section are State-Only Enforceable Requirements; see Section XII of this permit.

A. Limitations

1. The sterilizer shall process no more than 520 cycles per year, calculated monthly as the sum of each consecutive twelve (12) month period.
(9 VAC 5-170-160 and Condition 4 of 11/18/99 Permit, as amended 5/25/01)
2. Ethylene oxide emissions from the sterilizer shall be controlled by a catalytic abator with a minimum ethylene oxide destruction efficiency of 99.9%. The catalytic abator shall be operated in accordance with manufacturer's recommended operating practices, periodic maintenance and catalyst replacement, and shall be provided with adequate access for inspection.
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-60-320 and Condition 16 of 11/18/99 Permit, as amended 5/25/01)
3. The annual throughput of ethylene oxide shall not exceed 114.7 pounds, calculated monthly as the sum of each consecutive twelve (12) month period.
(9 VAC 5-170-160, 9 VAC 5-60-320 and Condition 17 of 11/18/99 Permit, as amended 5/25/01)

4. Emissions from the operation of the sterilizer shall not exceed the limits specified below:

Ethylene Oxide	0.0003 lbs/hr	0.00007 tons/yr
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(9 VAC 5-50-260, 9 VAC 5-60-320 and Condition 18 of 11/18/99 Permit, as amended 5/25/01)

5. Emissions from the operation of the aerator shall not exceed the limits specified below:

Ethylene Oxide	0.003 lbs/hr	0.0007 tons/yr
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(9 VAC 5-50-260, 9 VAC 5-60-320 and Condition 19 of 11/18/99 Permit, as amended 5/25/01)

B. Monitoring and Recordkeeping

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

The number of cycles processed in the sterilizer, calculated monthly as the sum of each consecutive twelve (12) month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50 and Condition 6 of 11/18/99 Permit, as amended 5/25/01)

2. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

Annual throughput of ethylene oxide, calculated monthly as the sum of each consecutive twelve (12) month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50 and Condition 20 of 11/18/99 Permit, as amended 5/25/01)

3. Operation & Maintenance Procedures: The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the sterilizer and related air pollution control equipment which affect such emissions:
 - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the sterilizer and air pollution control equipment.
 - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the sterilizer and air pollution control equipment and maintain records of inspection results.
 - c. Have available written operating procedures for the sterilizer and air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

- d. Train operators in the proper operation of the sterilizer and air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110, 9 VAC 5-50-20E and Conditions 10 and 11 of 11/18/99 Permit, as amended 5/25/01)

C. Testing

The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.

(9 VAC 5-50-30 F and Condition 3 of 11/18/99 Permit, as amended 5/25/01)

VI. Process Equipment Requirements – WW-E01, TK-E01 and TK-E02

A. Limitations

1. Particulate emissions from the woodworking operations shall be controlled by use of adequate duct work and fabric filters. The duct work and fabric filters shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and 9 VAC 5-40-2270)
2. Visible emissions from the woodworking operations shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity.
(9 VAC 5-80-110, 9 VAC 5-40-80, 9 VAC 5-40-320 and 9 VAC 5-40-2280)
3. Emissions from the woodworking operations shall not exceed the limits specified below:

Total Suspended Particulate	0.05 grains per standard cubic feet of exhaust gas
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PM-10	0.05 grains per standard cubic feet of exhaust gas
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(9 VAC 5-80-110 and 9 VAC 5-40-2270)

B. Recordkeeping

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110)
2. Operation & Maintenance Procedures: The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
 - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
 - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the air pollution control equipment and maintain records of inspection results.

- c. Have available written operating procedures for the air pollution control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of the air pollution control equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the air pollution control equipment in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request. (9 VAC 5-80-110 and 9 VAC 5-40-20E)

C. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
(9 VAC 5-80-110 and 9 VAC 5-40-30)
2. If compliance testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC Content	EPA Methods 24, 24a
NO _x	EPA Method 7
SO ₂	EPA Method 6
CO	EPA Method 10
PM/PM-10	EPA Method 5, 201, 201a
Visible Emission	EPA Methods 9, 22

(9 VAC 5-80-110)

VII. Facility Wide Conditions

A. Monitoring and Recordkeeping

Visible Emissions: Each emissions unit with a visible emissions requirement in this permit shall be observed visually at least once each calendar week in which the emissions unit operates. The visual observations shall be conducted using 40 CFR 60 Appendix A Method 22 techniques (condensed water vapor/steam is not a visible emission) for at least a brief time to only identify the presence of visible emissions, unless the unit is monitored by a 40 CFR 60 Appendix A continuous opacity monitor. Each emissions unit in the Method 22 technique observation having visible emissions shall be evaluated by conducting a 40 CFR 60 Appendix A Method 9 visible emissions evaluation (VEE) for at least six (6) minutes, unless corrective action is taken that achieves no visible emissions. 40 CFR 60 Appendix A Method 9 requires the observer to have a Method 9 certification that is current at the time of the VEE. If any of these six (6) minute VEE averages exceed the unit's opacity limitation, a VEE shall be conducted on these emissions for at least 3 six minute periods (at least 18 minutes). All visible emission observations, VEE results, and corrective actions taken shall be recorded.
(9 VAC 5-80-110E)

VIII. Insignificant Emission Units

The following emission units at the facility are identified in the application submitted on June 26, 2003 as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
AM-E01	Automotive maintenance	9 VAC 5-80-720A		
JE1	Allied Signal TFE109-1 jet engine	9 VAC 5-80-720A		
PB1	Blowtherm paint spray booth	9 VAC 5-80-720B	Volatile organic compounds	
-	3 Natural gas-fired hot air furnaces (Armory)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	2 Natural gas-fired steam boilers (Anaerobic Lab)	9 VAC 5-80-720C		2.344 MMBtu/hr each
-	2 oil furnaces (Beef Farms)	9 VAC 5-80-720C		0.2 MMBtu/hr each
-	Natural gas-fired steam generator (Brooks Center)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Central Stores)	9 VAC 5-80-720C		0.992 MMBtu/hr
-	2 LP gas-fired grain dryers (Dairy Farm)	9 VAC 5-80-720C		1.32 MMBtu/hr each
-	Oil furnace (Dairy Farm Maintenance Shop)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Natural gas-fired hot air furnace (317 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot air furnace (315 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot air furnace (316 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot air furnace (318 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	2 Natural gas-fired hot water boilers (Durham Hall)	9 VAC 5-80-720C		< 10 MMBtu/hr each

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired hot water heater (Food Processing)	9 VAC 5-80-720C		2 MMBtu/hr
-	4 Natural gas-fired unit heaters (Food Processing)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Food Processing)	9 VAC 5-80-720C		2.986 MMBtu/hr
-	Oil-fired hot water boiler (Golf Course Club House)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	6 Natural gas-fired unit heaters (Greenhouses)	9 VAC 5-80-720A		
-	Oil-fired hot water boiler (Grove)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Oil furnace (McCoy House)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	4 Natural gas-fired unit heaters (Mining and Materials Engineering Lab)	9 VAC 5-80-720A		
-	Natural gas-fired furnace (Mining and Materials Engineering Lab)	9 VAC 5-80-720C		<10 MMBtu/hr
-	Natural gas-fired furnace (Orange House Bldg. 314)	9 VAC 5-80-720C		<10 MMBtu/hr
-	Natural gas-fired hot water heater (Parking Services)	9 VAC 5-80-720C		0.35 MMBtu/hr
-	Natural gas-fired hot water boiler (Plant Pathology)	9 VAC 5-80-720C		<10 MMBtu/hr
-	9 Natural gas-fired hot water boilers (Sterrett Center)	9 VAC 5-80-720C		<10 MMBtu/hr each
-	Natural gas furnace (Poultry Farms)	9 VAC 5-80-720C		1.883 MMBtu/hr
-	Natural gas-fired hot water boiler (Price House (Women's Center))	9 VAC 5-80-720C		< 10 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Propane-fired unit heater (Research and Demonstration Facility)	9 VAC 5-80-720A		
-	14 Natural gas-fired unit heaters (Research and Demonstration Facility)	9 VAC 5-80-720A		
-	5 Natural gas-fired furnaces (Research and Demonstration Facility)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	Natural gas-fired hot water boiler (Rector Field House)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Oil furnace (Ruminant Center)	9 VAC 5-80-720C		0.1 MMBtu/hr
-	Natural gas-fired hot water boiler (Safety Building)	9 VAC 5-80-720C		1.03 MMBtu/hr
-	2 Natural gas-fired hot water heater (Special Purpose Housing)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 61A)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 62B)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 63C)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 66)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 66)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 67)	9 VAC 5-80-720C		< 10 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 68)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 69)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 70)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 439A)	9 VAC 5-80-720A		
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 440L)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Vet Medicine – Bldg. 441)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 442)	9 VAC 5-80-720A		
-	Oil-fired furnace (Vet Medicine – Bldg. 443)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Oil-fired furnace (Vet Medicine – Bldg. 444)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	3 Natural gas-fired unit heaters (Vet Medicine – Bldg. 447)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Vet Medicine – Bldg. 447)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	3 Natural gas-fired furnaces (Vet Medicine – Bldg. 447)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 448)	9 VAC 5-80-720A		
-	11 Natural gas-fired unit heaters (Vet Medicine – Bldg. 449)	9 VAC 5-80-720A		

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 450)	9 VAC 5-80-720A		
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 452)	9 VAC 5-80-720A		
-	Natural gas-fired hot water heater (Vet Medicine – IDU)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired furnace (Welcome Center)	9 VAC 5-80-720C		< 10 MMBtu/hr

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

IX. Compliance Plan

A. Description of Compliance Requirements

The permittee is subject to the compliance schedule described below. The schedule includes a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the source will be in noncompliance at the time of permit issuance. This compliance schedule resembles and is at least as stringent as that contained in any judicial consent decree or Board order to which the source is subject. This schedule is supplemental to, and does not sanction noncompliance with the applicable requirements upon which it is based.

(9 VAC 5-80-90 I.3.c)

B. Compliance Schedule

1. By February 1, 2004, the permittee shall provide to DEQ a plan and schedule to implement the recommendations of the independent evaluation of Boiler 11 required by Appendix A, item 2 of the Executive Compliance Agreement signed by Robert G. Burnley, Director, DEQ on January 26, 2002. Upon approval by DEQ, the plan and schedule shall become an enforceable part of the Executive Compliance Agreement.
(9 VAC 5-80-110 K.3)
2. As long as the permittee fully complies with all provisions of the Executive Compliance Agreement signed by Robert G. Burnley, Director, DEQ on January 26, 2002, NO₂ emissions exceeding the permitted limit in Condition III.A.16, above, from the execution of the agreement through completion of the work required by the approved plan and schedule shall not result in enforcement action by DEQ.
(9 VAC 5-80-110 K.3)

C. Reporting Requirements

Within 14 days of the dates provided in **Compliance Schedule** above, the permittee shall provide written confirmation that the milestone has been achieved. If the milestone is not achieved by the date required in the compliance schedule, the source shall, within 14 days of the date, provide a written explanation of the reason the compliance date was not met, a proposed alternate date and a statement as to the impact on the final compliance date. Extension of a compliance date may be cause for modification of this permit.

(9 VAC 5-80-110 K.4)

D. Certified Progress Report

The permittee shall submit a certified progress report semi-annually detailing the progress made toward completion of the milestones in **Compliance Schedule** above. The progress report must be certified by a responsible official and shall contain the following:

1. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
2. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.

(9 VAC 5-80-90 I.4 and 9 VAC 5-80-110 K.4)

X. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
None identified		

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.

(9 VAC 5-80-140)

XI. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

(9 VAC 5-80-110 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless a timely and complete renewal application consistent with 9 VAC 5-80-80 has been submitted to the West Central Regional Office of the DEQ by the owner, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C & F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
 - a. The date, place as defined in the permit, and time of sampling or measurements.
 - b. The date(s) analyses were performed.
 - c. The company or entity that performed the analyses.
 - d. The analytical techniques or methods used.
 - e. The results of such analyses.
 - f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G. [Note that much of the recordkeeping required by this permit also serves as required periodic monitoring to determine emissions compliance and therefore needs to be addressed in the periodic reports.] The details of the reports are to be arranged with the Director, West Central Regional Office. The reports shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
- b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

(1) Exceedance of emissions limitations or operational restrictions;

(2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or

compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

- (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period.”
- d. The report shall be sent to the following address:
VA DEQ
Director, West Central Regional Office
ATTN: Air Compliance Manager
3019 Peters Creek Road
Roanoke, VA 24019

(9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and to DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- 1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
- 2. The identification of each term or condition of the permit that is the basis of the certification.
- 3. The compliance status.
- 4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
- 5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

6. Such other facts as the permit may require to determine the compliance status of the source.

This annual compliance certification shall be sent to the following addresses:

VA DEQ
Director, West Central Regional Office
ATTN: Air Compliance Manager
3019 Peters Creek Road
Roanoke, VA 24019

U. S. Environmental Protection Agency, Region III
Clean Air Act Title V Compliance Certification (3AP00)
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, West Central Regional Office, within four (4) daytime business hours of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the occurrence, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next quarterly or semi-annual compliance monitoring report required by this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after a deviation is discovered from permit requirements, notify the Director, West Central Regional Office, by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within two weeks provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, West Central Regional Office.

1. The emission units that have continuous monitors subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not subject to the two week written notification.
2. The emission unit subject to the reporting and the procedure requirements of 9 VAC 5-50-50 C is listed below:
 - a. Boiler 11
3. Each owner required to install a continuous monitoring system subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) to the board for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include the following information:
 - a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B 6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;
 - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
 - c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
 - d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.
4. All emission units not subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C must make written reports within two weeks of the malfunction occurrence.

(9 VAC 5-20-180 C, 9 VAC 5-40-50, 9 VAC 5-50-50 and 9 VAC 5-80-250)

G. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring

results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 and 9 VAC 5-40-20)

H. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.
2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.
 - c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.
 - d. The permittee notified the board of the malfunction within two working days following the time when the emissions limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, telegraph, or any other method that allows the permittee to comply with the deadline. The notice fulfills the requirement of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirements under 9 VAC 5-20-180 C.
3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.

(9 VAC 5-80-250)

I. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

J. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-110 G.1)

K. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

L. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

M. Permit Modification

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1790, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-190 and 9 VAC 5-80-260)

N. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

O. Duty to Submit Information

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9 VAC 5-80-110 G.6)
2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
(9 VAC 5-80-110 K.1)

P. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by **April 15** of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

Q. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1. (9 VAC 5-80-110 J)

R. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

S. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

T. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.

(9 VAC 5-80-150 E)

U. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)
2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)
3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.

(9 VAC 5-80-190 C and 9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.

(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.

(40 CFR Part 82, Subparts A-F)

Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.

(40 CFR Part 68)

Z. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(9 VAC 5-80-110 I)

AA. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

XII. State-Only Enforceable Requirements

NOTE: All State-Only Enforceable Requirements are found in Section V, “Process Equipment Requirements – EtO sterilizer” of this permit.

The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states:

State toxics rule: Section V, Conditions A.2 through A.5 and B.2 of this permit

(9 VAC 5-80-110 N)